

REMARKS

Before addressing the merits of the present Official Action, applicants would like to express appreciation to Examiner Andriae Holt for providing an English Translation of Chinese Patent 1,340,508 to applicants.

In the present Office Action, Claim 7 is objected to in view of the term "power", which is incorrectly present within Claim 7. In response, applicants have amended the term "power" to "powder" in Claim 7. Additionally, applicants have amended the specification by changing the term "0.1-0.2%" to "0.1-2%". Support for this amendment is found at page 6, line 10 of WO 2004/022571 A1, which is the publication of PCT Application No. PCT/CN2003/000747. PCT/CN2003/000747 was acknowledged in the present Official Action. See page 2. Further support for the foregoing amendment to the specification is found in original Claim 10. Moreover, applicants have made amendments to Claims 1-12 to conform the claims to current U.S. practice. Support for these amendments is found within originally filed Claims 2-12.

Since the above amendments do not introduce any new matter into the application, entry thereof is respectfully requested. Moreover, since the amendment to Claim 7 obviates the aforesaid objection, reconsideration and withdrawal of the instant objection are respectfully requested.

In the present Official Action, Claims 1-12 stand rejected under 35 U.S.C. §103(a) as allegedly unpatentable over the International Patent Application Publication No. WO 01/08492 to Massmann et al. (hereinafter "the '492 publication") in view of the Chinese Patent Publication No. 1,340,508 to Hu et al. (hereinafter "the '508 publication").¹

¹ Note that in discussing the '508 publication, reference will be made to the above-mentioned English Translation of the '508 publication as provided by Examiner Andriae Holt.

With respect to the above-mentioned §103 rejection, applicants have amended the claims in the manner indicated above. Specifically, applicants have amended Claim 1 to positively recite that the organic solvent is added into the reaction solution after the reaction is completed. Support for this amendment is found at page 4, lines 25-29 of the instant specification. Since the above-mentioned amendment to Claim 1 is fully supported by the originally filed application, entry thereof is respectfully requested.

In view of the above-described claim amendment, applicants submit that the claims of the present invention are not rendered unpatentable by the disclosure of the '492 publication in view of the '508 publication since the applied references, either solely or combined, fail to teach or suggest the process for preparing solid ammonium glyphosate by extraction with an organic solvent as presently claimed.

Regarding the primary reference, namely the '492 publication, applicants submit that there are several differences between the claimed process and the process disclosed in the '492 publication. Specifically, the '492 publication teaches a process wherein the isolation of the product from the reaction solution is achieved by using the heat generated in the reaction to partially evaporate water (See page 6, lines 10-13); and if the water content is above 15% by weight after the partial evaporation, then heat or vacuum is further applied to reduce the water content; and then surfactants are added to form an extrudable wet mix, the wet mix is thereafter extruded, and finally dried (see page 6, lines 19-31). In contrast, the isolation of product in the claimed process is achieved by the addition of an organic solvent, having high solubility in water or is miscible with water, into the reaction solution after the reaction is completed, which reduces the solubility of the product in the water-organic solvent system, and thus the product is crystallized. Therefore, there is no disclosure or suggestion in the '492 publication regarding the

isolation of product via crystallization by using an organic solvent having high solubility in water or is miscible with water, which is in accordance to the present application.

Regarding the secondary reference, namely the '508 publication, it teaches a process for synthesizing ammonium glyphosate wherein the organic solvent or organic solvent-water mixture is reacted with glyphosate and ammonium to form the product (see page 1, the abstract; and page 4, the first full paragraph). Although the '508 publication teaches that the product is crystallized from the reaction mixture, it is to be noted that such crystallization process is completely different to the crystallization process claimed in the present application.

Specifically, the organic solvent disclosed in the '508 publication is used as a reaction-solvent in a reaction step because it is added into the reaction mixture at the beginning of the reaction with other reactants (see page 1, the abstract; and page 4, the first full paragraph). Therefore, the reaction and the crystallization are carried out at the same time. In the claimed process, the organic solvent is added after the reaction is complete. In other words, the organic solvent used in the claimed process is added as an isolation-solvent in a separate and independent isolation step (see page 4, lines 12-20). Therefore, the reaction and crystallization are separate and independent steps. Applicants observe that there is no disclosure or suggestion in the '508 publication regarding a separate and independent isolation step using an organic solvent as presently claimed.

Furthermore, applicants submit that the primary reference teaches away from the secondary reference in several aspects. Specifically, the '492 publication discloses that the temperature of the reaction is close to 100°C (see page 13, lines 6-7). On the contrary, the '508 publication teaches that the temperature of the reaction is 10-50°C (see page 1, the Abstract; and page 4, the first full paragraph). It is clear that reaction temperature is one of the most critical

conditions in a chemical reaction process. This condition materially affects not only the mass, heat and momentum transfer rate of such process, but also affects the reaction kinetics. Moreover, the '492 publication discloses that water is used as a reaction solvent (see page 6, lines 9-10), whereas the '508 publication teaches that an organic solvent, or 75% of the solvent system is an organic solvent (organic solvent-water mixture containing less than 25% water) used as the reaction solvent. See page 1, the abstract. It is clear that the physical and chemical property of an organic solvent are different to that of water, and thus such differences affect the mass, heat and momentum transfer rate, and reaction kinetics of the chemical reaction. The above-described differences also affect the isolation step wherein the product is isolated from the reaction mixture. Furthermore, the '492 publication discloses that the heat generated in the reaction, additional heat or vacuum, surfactants and extrusion are used to isolate the product from the reaction solution, whereas the '508 publication teaches isolation achieved by crystallization.

It is to be noted that the effectiveness of a process of synthesizing and isolating ammonium glyphosate depends on the reaction conditions and isolation methods of such a process, for example, reaction temperature, reaction solvent, isolation procedures, etc. If the process conditions are different from one art to another, one would be unable to utilize the same methodology as in the prior art to effect the intended application. In other words, the type of methodology utilized is dependent upon each set of circumstances and cannot be generalized. Therefore, in view of the above-described differences of the process conditions between the '492 publication and the '508 publication, applicants submit that there would be no reason for a person skilled in the art to combine the two cited reference in the first instance, and would not

have a reasonable expectation that the combined teachings would arrive at the process as presently claimed.

Furthermore, applicants submit that the '508 publication teaches away from the present application. Specifically, the '508 publication teaches that there is no difference between polar solvents (i.e., alcohol) and unpolar solvents (mineral ether, benzene, xylene or cyclohexane) regarding their use as solvents in the process. See page 4, the fourth full paragraph. In contrast, the present application stresses that there is a difference. Specifically, the instant specification describes that when unpolar solvents (i.e., aliphatic hydrocarbon such as cyclohexane, aromatic hydrocarbon such as benzene, or ethers) are used in the process, such solvents are not able to form a stable homogeneous phase in water and thus cannot achieve the effective isolation of the product. See page 5, lines 21 to page 6, line 1. Therefore, this finding further buttresses applicants' position that there is no disclosure or suggestion in the '508 publication regarding the use of organic solvent, having high solubility in water or is miscible with water, in a separate and independent crystallization step, which is in accordance to the present application. Therefore, even assuming that the '492 publication can be combined with the '508 publication, such combination, at most, teaches a process wherein an organic solvent is added at the onset of the reaction as a reaction solvent, and the reaction and the crystallization are carried out at the same time. Applicants respectfully emphasize that such combined teaching is completely different to the presently claimed process.

Where no suggestion indicates which of many possibilities is likely to be successful, it is inappropriate to conclude that a claimed invention would have been obvious simply because the inventor could have tried each of numerous possible choices until eventually arriving at a successful result. Any such picking and choosing among the prior art disclosures

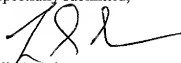
using the present application as a road map represents a hindsight analysis which is contrary to established case law. "Care must be taken to avoid hindsight reconstruction by using 'the patent in suit as a guide through a maze of prior art references, combining the right references in the right way so as to achieve the result of the claims at suit.'" Grain Processing Corp. v. American Maize-Prods. Co., 840 F.2d 902, 907, 5 USPQ2d. 1788, 1792 (Fed.Cir. 1988).

Therefore, in view of the above remarks, applicants submit that that the process claimed in the present application is not obvious to one of the skilled in the art over the disclosure of the '492 publication in view of the '508 publication.

The rejection under 35 U.S.C. § 103(a) has been obviated; therefore reconsideration and withdrawal thereof are respectfully requested.

Thus, in view of the foregoing amendments and remarks, it is firmly believed that the present application is in condition for allowance, which action is earnestly solicited.

Respectfully submitted,



Leslie S. Szivos
Registration No. 39,394

Scully, Scott, Murphy & Presser, P.C.
400 Garden City Plaza, Suite 300
Garden City, New York 11530
(516) 742-4343

AZ/LSS:dg